

STATE OF ARIZONA

FLOODPLAIN MANAGEMENT

MODEL ORDINANCE

(Non-Colorado River Communities)

August 2005

FLOOD DAMAGE PREVENTION ORDINANCE
SECTION 1.0
STATUTORY AUTHORIZATION, FINDINGS OF FACT,
PURPOSE AND METHODS

1.1 applies to counties. Counties must adopt floodplain management regulations according to A.R.S. §§ 48-3603 and 48-3609.

1.1 STATUTORY AUTHORIZATION

In A.R.S. §§ 48-3601 through 48-3627, the Arizona State Legislature has delegated the responsibility to each county flood control district to adopt regulations designed to promote the public health, safety and general welfare of its citizenry. Therefore, the Flood Control District of **{County}**, Arizona, does ordain as follows:

1.1 applies to cities and towns, which assume responsibility for management of their floodplains according to A.R.S. § 48-3610.

1.1 STATUTORY AUTHORIZATION

In A.R.S. § 48-3610, the Arizona State Legislature enabled the **{City or Town}** to adopt regulations in conformance with A.R.S. § 48-3603 designed to promote the public health, safety and general welfare of its citizenry. Therefore, the **{City Council, Town Council}** of the **{governing body}**, Arizona, does ordain as follows:

1.2 FINDINGS OF FACT

- A. The flood hazard areas of the **{governing body}** are subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.
- B. These flood losses may be caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities and, when inadequately anchored, cause damage in other areas. Uses that are inadequately flood proofed, elevated or otherwise protected from flood damage, also contribute to the flood loss.

1.3 STATEMENT OF PURPOSE

It is the purpose of this ordinance to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- A. To protect human life and health;

- B. To minimize expenditure of public money for costly flood control projects;
- C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. To minimize prolonged business interruptions;
- E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;
- F. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize blight areas caused by flooding;
- G. To insure that potential buyers are notified that property is in an area of special flood hazard;
- H. To insure that those who occupy the areas of special flood hazard assume responsibility for their actions; and
- I. To maintain eligibility for disaster relief.

1.4 METHODS OF REDUCING FLOOD LOSSES

In order to accomplish its purposes, this ordinance includes methods and provisions for:

- A. Restricting or prohibiting uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Controlling the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel flood waters;
- D. Controlling filling, grading, dredging and other development which may increase flood damage; and
- E. Preventing or regulating the construction of flood barriers that will unnaturally divert flood waters or which may increase flood hazards in other areas.

SECTION 2.0 DEFINITIONS

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

Appeal. A request for a review of the floodplain administrator's interpretation of any provision of this ordinance or a request for a variance.

Area of Shallow Flooding. A designated AO or AH Zone on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of Special Flood Hazard. The land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. These areas are designated as Zone A, AE, AO, AH and A1-30 on the Flood Insurance Rate Map and other areas determined by the criteria adopted by the director of ADWR. (*See "Special Flood Hazard Area"*)

Base Flood. The flood having a one percent chance of being equaled or exceeded in any given year.

Basement. Any area of a building having its floor sub-grade (below ground level) on all sides.

Building. See "Structure".

Community. Any state, area or political subdivision thereof, or any Indian tribe or authorized tribal organization, or authorized native organization, which has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction.

Development. Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of materials or equipment.

Encroachment. The advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

Erosion. The process of the gradual wearing away of landmasses. This peril is not, per se, covered under the Program.

Flood or Flooding. A general and temporary condition of partial or complete inundation of normally dry land areas from: (1) the overflow of flood waters; (2) the unusual and rapid accumulation or runoff of surface waters from any source; and/or (3) the collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining

caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in this definition.

Flood Boundary and Floodway Map (FBFM). The official map on which FEMA or the Federal Insurance Administration (FIA) has delineated the areas of special flood hazards and the floodway.

Flood Insurance Rate Map (FIRM). The official map on which FEMA has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

Flood Insurance Study. The official report provided by FEMA that includes flood profiles, FIRM, FBFM and the water surface elevation of the base flood.

Floodplain or Flood-Prone Area. Any land area susceptible to being inundated by water from any source. *(See Flood or Flooding)*

Floodplain Administrator. The individual appointed to administer and enforce the floodplain management regulations.

Floodplain Board. The Board of Directors of the Flood Control District of **{governing}** County, or the **{City, Town}** Council of **{governing body}**, at such times as they are engaged in the enforcement of this ordinance. *(Floodplain Board as defined in A.R.S. § 48-3601 for counties)*

Floodplain Management. The operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

Floodproofing. Any combination of structural and non-structural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Flood-Related Erosion. The collapse or subsidence of land along the shore of a lake or other body of water as a result of undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding.

Floodway. The area of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Also referred to as “Regulatory Floodway.”

Floodway Fringe. That area of the floodplain on either side of the “Regulatory Floodway” where encroachment may be permitted.

Functionally Dependent Use. A use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking or port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

Governing Body. The local governing unit (i.e., county or municipality), which is empowered to adopt and implement regulations to provide for the public health, safety and general welfare of its citizenry.

Hardship. Related to Section **6.0 {or the numbering system used by the community}**, “*Variances*”, of this ordinance means the exceptional hardship which would result from a failure to grant the requested variance. The governing body requires that the variance be exceptional, unusual and peculiar to the property involved. Mere economic or financial hardship alone is not exceptional. Inconvenience, aesthetic considerations, physical handicaps, personal preferences or the disapproval of one’s neighbors likewise cannot, as a rule, qualify as an exceptional hardship. All of these problems can be resolved through other means without granting a variance, even if the alternative is more expensive, or requires the property owner to build elsewhere or put the parcel to a different use than originally intended.

Highest Adjacent Grade. The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic Structure. Any structure that is:

- A. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior (Secretary) as meeting the requirements for individual listing on the National Register;
- B. Certified or preliminarily determined by the Secretary as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- C. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary; or
- D. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - a. by an approved state program as determined by the Secretary; or
 - b. directly by the Secretary in states without approved programs.

Levee. A man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control or divert the flow of water so as to provide protection from temporary flooding.

Lowest Floor. The lowest floor of the lowest enclosed area, including basement (see "Basement" definition). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor, **provided** that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

Manufactured Home. A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "Manufactured Home" does **not** include a "recreational vehicle."

Manufactured Home Park or Subdivision. A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for sale or rent.

Mean Sea Level. For purposes of the NFIP, the National Geodetic Vertical Datum (NGVD) of 1929 or North American Vertical Datum (NAVD) of 1988, to which base flood elevations are shown on a community's FIRM are referenced.

New Construction. For the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

New Manufactured Home Park or Subdivision. A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by the community.

Obstruction. Includes, but is not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation or other material in, along, across or projecting into any watercourse which may alter, impede, retard or change the direction and/or velocity of the flow of water, or due to its location, its propensity to snare or collect debris carried by the flow of water or its likelihood of being carried downstream.

One-Hundred Year Flood. The flood having a one percent chance of being equaled or exceeded in any given year. (See "Base Flood" definition)

Person. An individual or the individual's agent, a firm, partnership, association or corporation, or an agent of the aforementioned groups, or this state or its agencies or political subdivisions.

Recreational Vehicle. A vehicle that is:

- A. Built on a single chassis;
- B. 400 square feet or less when measured at the largest horizontal projection;
- C. Designed to be self-propelled or permanently towable by a light duty truck; and
- D. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

Regulatory Flood Elevation. An elevation one foot above the base flood elevation for a watercourse for which the base flood elevation has been determined and shall be determined by the criteria developed by the director of water resources for all other watercourses.

Regulatory Floodway. The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

Sheet Flow Area. (See “Area of Shallow Flooding”)

Special Flood Hazard Area. An area having special flood or flood-related erosion hazards and shown on a FHBM or FIRM as Zone A, AO, A1-30, AE, A99 or AH.

Start of Construction. Includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns or any work beyond the stage of excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, nor does it include the installation of streets and/or walkways, nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms, nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure. A walled and roofed building, including a gas or liquid storage tank, which is principally above ground, as well as a manufactured home.

Substantial Damage. Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 % of the market value of the structure before the damage occurred.

Substantial Improvement. Any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

- A. Any project for improvement of a structure to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or,
- B. Any alteration of a "historic structure," provided that the alteration would not preclude the structure's continued designation as a "historic structure".

Variance. A grant of relief from the requirements of this ordinance that permits construction in a manner that would otherwise be prohibited by this ordinance.

Violation. The failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications or other evidence of compliance required in this ordinance is presumed to be in violation until such time as that documentation is provided.

Water Surface Elevation. The height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 or North American Vertical Datum (NAVD) of 1988 of floods of various magnitudes and frequencies in the floodplains of riverine areas.

Watercourse. A lake, river, creek, stream, wash, arroyo, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

SECTION 3.0 GENERAL PROVISIONS

3.1 applies only to counties

3.1 LANDS TO WHICH THIS ORDINANCE APPLIES

This ordinance shall apply to all areas of special flood hazards within the boundaries of **the {County}** except those incorporated cities and towns which have adopted a resolution in accordance with A.R.S. § 48-3610.

3.1 applies only to cities and towns

3.1 LANDS TO WHICH THIS ORDINANCE APPLIES

This ordinance shall apply to all areas of special flood hazards within the corporate limits of the **{City or Town}**.

3.2 BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD

The areas of special flood hazard identified by FEMA in a scientific and engineering report entitled “The Flood Insurance Study for **{County and date of current study}**” with accompanying FIRMs dated **{date}**, and all subsequent amendments and/or revisions, are hereby adopted by reference and declared to be a part of this ordinance. This FIS and attendant mapping is the minimum area of applicability of this ordinance and may be supplemented by studies for other areas which allow implementation of this ordinance and which are recommended to the floodplain board by the floodplain administrator. The floodplain board, within its area of jurisdiction, shall delineate (or may, by rule, require developers of land to delineate) for areas where development is ongoing or imminent, and thereafter as development becomes imminent, floodplains consistent with the criteria developed by FEMA and the Director of Water Resources. The FIS and FIRM panels are on file at **{list the address or the building (i.e. County Administration Building, Department of Planning, Public Works etc.)}**.

3.3 COMPLIANCE

All development of land, construction of residential, commercial or industrial structures, or future development within delineated floodplain areas is subject to the terms of this ordinance and other applicable regulations.

3.4 ABROGATION AND GREATER RESTRICTIONS

This ordinance is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this ordinance and another ordinance, easement, covenant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

3.5 INTERPRETATION

In the interpretation and application of this ordinance, all provisions shall be:

- A. Considered as minimum requirements;
- B. Liberally construed in favor of the governing body; and
- C. Deemed neither to limit nor repeal any other powers granted under state statutes.

3.6 DISCLAIMER OF LIABILITY

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This

ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of the **{governing body}**, any officer or employee thereof, the State of Arizona or FEMA, for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

3.7 STATUTORY EXEMPTIONS

In accordance with (A.R.S. § 48-3609(H)), unless expressly provided, this and any regulation adopted pursuant to this article do not affect:

- A. Existing legal uses of property or the right to continuation of such legal use. However, if a nonconforming use of land or a building or structure is discontinued for twelve months, or destroyed to the extent of 50 percent of its value as determined by a competent appraiser, any further use shall comply with this article and regulations of the **{governing body}**;
- B. Reasonable repair or alteration of property for the purposes for which the property was legally used on August 3, 1984, or any regulations affecting such property takes effect, except that any alteration, addition or repair to a nonconforming building or structure which would result in increasing its flood damage potential by 50 percent or more shall be either floodproofed or elevated to or above the regulatory flood elevation;
- C. Reasonable repair of structures constructed with the written authorization required by A.R.S. § 48-3613; and
- D. Facilities constructed or installed pursuant to a Certificate of Environmental Compatibility issued pursuant to A.R.S. Title 40, Chapter 2, Article 6.2.

Before any authorized construction begins for the exceptions listed below, the responsible person must submit plans for the construction to the floodplain board for review and comment. In accordance with A.R.S. § 48-3613, written authorization shall not be required, nor shall the floodplain board prohibit:

- E. The construction of bridges, culverts, dikes and other structures necessary to the construction of public highways, roads and streets intersecting or crossing a watercourse;
- F. The construction of storage dams for watering livestock or wildlife, structures on banks of a watercourse to prevent erosion of or damage to adjoining land if the structure will not divert, retard or obstruct the natural channel of the watercourse or dams for the conservation of floodwaters as permitted by A.R.S. Title 45, Chapter 6;
- G. Construction of tailing dams and waste disposal areas for use in connection with mining and metallurgical operations. This paragraph does not exempt those sand and gravel operations that will divert, retard or obstruct the flow of waters in any watercourse from

complying with and acquiring authorization from the floodplain board pursuant to regulations adopted by the floodplain board under this article;

- H. Other construction upon determination by the floodplain board that written authorization is unnecessary;
- I. Any flood control district, county, city, town or other political subdivision from exercising powers granted to it under A.R.S. Title 48, Chapter 21, Article 1;
- J. The construction of streams, waterways, lakes and other auxiliary facilities in conjunction with development of public parks and recreation facilities by a public agency or political subdivision; and
- K. The construction and erection of poles, towers, foundations, support structures, guy wires and other facilities related to power transmission as constructed by any utility whether a public service corporation or a political subdivision.

In addition to other penalties or remedies otherwise provided by law, this state, a political subdivision or a person who may be damaged or has been damaged as a result of the unauthorized diversion, retardation or obstruction of a watercourse has the right to commence, maintain and prosecute any appropriate action or pursue any remedy to enjoin, abate or otherwise prevent any person from violating or continuing to violate this section or regulations adopted pursuant to this Article. If a person is found to be in violation of this Section, the court shall require the violator to either comply with this Section if authorized by the floodplain board or remove the obstruction and restore the watercourse to its original state. The court may also award such monetary damages as are appropriate to the injured parties resulting from the violation including reasonable costs and attorney fees.

3.8 UNLAWFUL ACTS

- A. It is unlawful for a person to engage in any development or to divert, retard or obstruct the flow of waters in a watercourse if it creates a hazard to life or property without securing the written authorization required by A.R.S. § 48-3613. Where the watercourse is a delineated floodplain, it is unlawful to engage in any development affecting the flow of waters without securing written authorization required by A.R.S. § 48-3613.
- B. Any person found guilty of violating any provision of this ordinance shall be guilty of a misdemeanor. Each day that a violation continues shall be a separate offense punishable as hereinabove described.

3.9 DECLARATION OF PUBLIC NUISANCE

All development located or maintained within any area of special flood hazard after August 8, 1973, in violation of this ordinance is a public nuisance per se and may be abated, prevented or restrained by action of this political subdivision.

3.10 ABATEMENT OF VIOLATIONS

Within 30 days of discovery of a violation of this ordinance, the floodplain administrator shall submit a report to the floodplain board which shall include all information available to the floodplain administrator which is pertinent to said violation. Within 30 days of receipt of this report, the floodplain board shall either:

- A. Take any necessary action to effect the abatement of such violation; or
- B. Issue a variance to this ordinance in accordance with the provisions of Section **6.0 {or the numbering system used by the community}** herein; or
- C. Order the owner of the property upon which the violation exists to provide whatever additional information may be required for their determination. Such information must be provided to the floodplain administrator within 30 days of such order and the floodplain administrator shall submit an amended report to the floodplain board within 20 days. At the next regularly scheduled public meeting, the floodplain board shall either order the abatement of said violation or they shall grant a variance in accordance with the provisions of Section **6.0 {or the numbering system used by the community}** herein; or
- D. Submit to FEMA a declaration for denial of insurance, stating that the property is in violation of a cited state or local law, regulation or ordinance, pursuant to Section 1316 of the National Flood Insurance Act of 1968 as amended.

3.11 SEVERABILITY

This ordinance and the various parts thereof are hereby declared to be severable. Should any Section of this ordinance be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the ordinance as a whole, or any portion thereof other than the Section so declared to be unconstitutional or invalid.

SECTION 4.0 ADMINISTRATION

4.1 ESTABLISHMENT OF DEVELOPMENT PERMIT

A Development Permit shall be obtained before construction or development begins, including placement of manufactured homes, within any area of special flood hazard established in Section **3.2 {or the numbering system used by the community}**. Application for a Development Permit shall be made on forms furnished by the floodplain administrator and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions and elevation of the area in question, existing or proposed structures, fill, storage of materials, drainage facilities and the location of the foregoing. Specifically, the following information is required:

- A. Proposed elevation in relation to mean sea level of the lowest floor (including basement) of all structures. In Zone AO, elevation of existing highest adjacent natural grade and proposed elevation of lowest floor of all structures;
- B. Proposed elevation in relation to mean sea level to which any non-residential structure will be floodproofed;
- C. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Section **5.1.C.2 {or the numbering system used by the community}**;
- D. Require base flood elevation data for subdivision proposals or other development greater than 50 lots or 5 acres; and
- E. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

4.2 DESIGNATION OF THE FLOODPLAIN ADMINISTRATOR

The **{job title}** is hereby appointed to administer, implement and enforce this ordinance by granting or denying development permits in accordance with its provisions.

4.3 DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR

Duties of the Floodplain Administrator shall include, but not be limited to:

- A. Review all development permits to determine that:
 - 1. The permit requirements of this ordinance have been satisfied;
 - 2. All other required state and federal permits have been obtained;
 - 3. The site is reasonably safe from flooding;
 - 4. The proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. For purposes of this ordinance, "adversely affects" means that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point.
- B. Use of Other Base Flood Data. When base flood elevation data has not been provided in accordance with Section **3.2 {or the numbering system used by the community}**, the Floodplain Administrator shall obtain, review and reasonably utilize any base flood elevation data available from a federal, state or other source, in order to administer

Section **5.0 {or the numbering system used by the community}**. Any such information shall be consistent with the requirements of FEMA and the director of water resources and shall be submitted to the Floodplain Board for adoption.

C. Obtain and maintain for public inspection and make available the following:

1. The certified regulatory flood elevation required in Section **5.1.C.1 {or the numbering system used by the community}**;
2. The Zone AO certification required in Section **5.1.C.1 {or the numbering system used by the community}**;
3. The floodproofing certification required in Section **5.1.C.2 {or the numbering system used by the community}**;
4. The flood vent certification required in Section **5.1C.3a. {or the numbering system used by the community}**

D. Whenever a watercourse is to be altered or relocated:

1. Notify adjacent communities and ADWR prior to such alteration or relocation of a watercourse, and submit evidence of such notification to FEMA through appropriate notification means; and
2. Require that the flood carrying capacity of the altered or relocated portion of said watercourse be maintained.

E applies only to counties

- E. Advise in writing and provide a copy of any development plan to any city or town having assumed jurisdiction over its floodplains in accordance with A.R.S. § 48-3610(B)(1), of any application for a floodplain use permit or variance to develop land in a floodplain or floodway within one mile of the corporate limits of such city or town. The district shall also advise such city or town in writing and provide a copy of any development plan of any major development proposed within a floodplain or floodway which could affect floodplains, floodways or watercourses within such city's or town's area of jurisdiction. Written notice and a copy of the plan of development shall be sent to such city or town no later than 3 working days after having been received by the district.

E applies only to cities and towns which manage their floodplains

- E. Advise the district of the **{County}** and any adjunct jurisdiction having responsibility for floodplain management in writing and provide a copy of a development plan of all applications for floodplain use permits or variances to develop land in a floodplain or floodway within one mile of the corporate limits of the **{City, Town}** of **{governing body}**. Also, advise the district of **{County}** in writing and provide a copy of any development plan of any major development proposed within a floodplain or floodway,

which could affect floodplains, floodways or watercourses within the district's area of jurisdiction. Written notice and a copy of the plan of development shall be sent to the district no later than three (3) working days after having been received by the **{City, Town}**.

- F. Make interpretations, where needed, as to the exact location of the boundaries of the areas of special flood hazards (e.g., where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Section **6.0 {or the numbering system used by the community}**.
- G. Take actions on violations of this ordinance as required in Section **3.10 {or the numbering system used by the community}** herein.
- H. Notify FEMA and ADWR of acquisition by means of annexation, incorporation or otherwise, of additional areas of jurisdiction.
- I. Within one hundred twenty (120) days after completion of construction of any flood control protective works which changes the rate of flow during the flood or the configuration of the floodplain upstream or downstream from or adjacent to the project, the person or agency responsible for installation of the project shall provide to the governing bodies of all jurisdictions affected by the project a new delineation of all floodplains affected by the project. The new delineation shall be done according to the criteria adopted by the Director of Water Resources.
- J. Base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, the Floodplain Administrator shall notify FEMA of the changes by submitting technical or scientific data in accordance with Volume 44 Code of Federal Regulations section 65.3. Such a submission is necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and floodplain management requirements will be based upon current data.

SECTION 5.0 PROVISIONS FOR FLOOD HAZARD REDUCTION

5.1 STANDARDS OF CONSTRUCTION

In all areas of special flood hazards, the following standards are required:

- A. Anchoring
 - 1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy; and

2. All manufactured homes shall meet the anchoring standards of section **5.5.B {or the numbering system used by the community}**.

B. Construction Materials and Methods

1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage;
3. All new construction, substantial improvement and other proposed new development shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding; and
4. Require within Zones AH or AO adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.

C. Elevation and Floodproofing

1. Residential construction, new or substantial improvement, shall have the lowest floor, including basement,
 - a) in an AO Zone, elevated to or above the regulatory flood elevation, or elevated at least two feet above the highest adjacent grade if no depth number is specified.
 - b) in an A Zone where a BFE has not been determined, elevated to or above the regulatory flood elevation or be elevated in accordance with the criteria developed by the Director of Water Resources.
 - c) In Zones AE, AH and A1-30, elevated to or above the regulatory flood elevation.

Upon completion of the structure, the elevation of the lowest floor including basement shall be certified by a registered professional engineer or surveyor, and verified by the community's building inspector to be properly elevated. Such certification and verification shall be provided to the Floodplain Administrator.

2. Nonresidential construction, new or substantial improvement, shall either be elevated to conform with Section **5.1.C.1 {or the numbering system used by the community}** or together with attendant utility and sanitary facilities:
 - a) be floodproofed below the elevation recommended under Section **5.1.C.1 {or the numbering system used by the community}** so that the structure

is watertight with walls substantially impermeable to the passage of water;

- b) have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - c) be certified by a registered professional engineer or architect that the standards of this section are satisfied. Such certification shall be provided to the Floodplain Administrator.
3. All new construction and substantial improvement with fully enclosed areas below the lowest floor (excluding basements) that are usable solely for parking of vehicles, building access or storage, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwater. Designs for meeting this requirement must meet or exceed the following criteria:
- a) have a minimum of two openings, on different sides of each enclosed area, having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwater; or
 - b) be certified by a registered professional engineer or architect
4. Manufactured homes shall also meet the standards in Section **5.5 {or the numbering system used by the community}**

5.2 STANDARDS FOR STORAGE OF MATERIALS AND EQUIPMENT

- A. The storage or processing of materials that could be injurious to human, animal or plant life if released due to damage from flooding is prohibited in special flood hazard areas.
- B. Storage of other material or equipment may be allowed if not subject to damage by floods and if firmly anchored to prevent flotation, or if readily removable from the area within the time available after flood warning.

5.3 STANDARDS FOR UTILITIES

- A. All new or replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from systems into flood waters.
- B. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

- C. Waste disposal systems shall not be installed wholly or partially in a regulatory floodway.

5.4 ADDITIONAL STANDARDS FOR DEVELOPMENT, INCLUDING SUBDIVISIONS

- A. All new subdivision proposals and other proposed development (including proposals for manufactured home parks and subdivisions), greater than 50 lots or 5 acres, whichever is the lesser, shall
 - 1. identify the area of the special flood hazard area and the elevation of the base flood
 - 2. identify on the final plans the elevation(s) of the proposed structure(s) and pads. If the site is filled above the base flood elevation, the final lowest floor and grade elevations shall be certified by a registered professional engineer or surveyor and provided to the Floodplain Administrator.
- B. All subdivision proposals and other proposed development shall be consistent with the need to minimize flood damage.
- C. All subdivision proposals and other proposed development shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
- D. All subdivision proposals and other proposed development shall provide adequate drainage to reduce exposure to flood hazards.

5.5 STANDARDS FOR MANUFACTURED HOMES

All manufactured homes that are placed or substantially improved shall:

- A. Be elevated so that the bottom of the structural frame or the lowest point of any attached appliances, whichever is lower, is at or above the regulatory flood elevation; and
- B. Be securely anchored to an adequately anchored foundation system to resist flotation, collapse or lateral movement. Methods of anchoring may include, but are not to be limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

5.6 STANDARDS FOR RECREATIONAL VEHICLES

All recreational vehicles placed on site will either:

- A. Be on site for fewer than 180 consecutive days, or

- B. Be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or
- C. meet the permit requirements of Section **4.0 {or the numbering system used by the community}** of this ordinance and the elevation and anchoring requirements for manufactured homes in Section **5.5 {or the numbering system used by the community}**.

5.7 FLOODWAYS

Located within areas of special flood hazard established in Section **3.2 {or the numbering system used by the community}** are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following provisions apply:

- A. Prohibit encroachments, including fill, new construction, substantial improvements and other development, unless certification by a registered professional engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- B. If Section **5.7 {or the numbering system used by the community}** is satisfied, all new construction and substantial improvements shall comply with all other applicable flood hazard reduction provisions of Section **5 {or the numbering system used by the community}**.

5.8 FLOOD RELATED EROSION-PRONE AREA (This section is optional)

- A. The floodplain administrator shall require permits for proposed construction and other development within all flood-related erosion-prone areas as known to the community.
- B. Permit applications shall be reviewed to determine whether the proposed site alterations and improvements will be reasonably safe from flood-related erosion and will not cause flood-related erosion hazards or otherwise aggravate the existing hazard.
- C. If a proposed development is found to be in the path of flood-related erosion or would increase the erosion hazard, such improvements shall be relocated or adequate protective measures shall be taken to avoid aggravating the existing erosion hazard.
- D. Within Zone E on the FIRM, a setback is required for all new development from the lake, bay, riverfront or other body of water to create a safety buffer consisting of a natural vegetative or contour strip. This buffer shall be designated according to the flood-related erosion hazard and erosion rate, in relation to the anticipated “useful life” of structures and depending upon the geologic, hydrologic, topographic and climatic characteristics of the land. The buffer may be used for suitable open space purposes such as agricultural, forestry, outdoors recreation and wildlife habitat areas and for other activities using temporary and portable structures only.

SECTION 6.0 VARIANCE PROCEDURE

6.1 NATURE OF VARIANCES

The variance criteria set forth in this section of the ordinance are based on the general principle of zoning law that variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this ordinance would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants or the property owners.

It is the duty of the **{governing body}** to help protect its citizens from flooding. This need is so compelling and the implications of the cost of insuring a structure built below the regulatory flood elevation is so serious that variances from the flood elevation or from other requirements in the flood ordinance are quite rare. The long-term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited. Therefore, the variance guidelines provided in this ordinance are more detailed and contain multiple provisions that must be met before a variance can be properly granted. The criteria are designed to screen out those situations in which alternatives other than a variance are more appropriate.

6.2 APPEAL BOARD

- A. The Floodplain Board of the **{governing body}** shall hear and decide appeals and requests for variances from the requirements of this ordinance.
- B. The Floodplain Board shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Floodplain Administrator in the enforcement or administration of this ordinance.
- C. In passing upon such applications, the Floodplain Board shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and:
 - 1. the danger that materials may be swept onto other lands to the injury of others;
 - 2. the danger of life and property due to flooding or erosion damage;
 - 3. the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - 4. the importance of the services provided by the proposed facility to the community;

5. The necessity to the facility of a waterfront location, where applicable;
 6. the availability of alternative locations for the proposed use, which are not subject to flooding or erosion damage;
 7. the compatibility of the proposed use with existing and anticipated development;
 8. the relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
 9. the safety of access to the property in time of flood for ordinary and emergency vehicles;
 10. the expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site; and,
 11. the costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, water system and streets and bridges.
- D. Upon consideration of the factors of Section **6.2(c) {or the numbering system used by the community}** and the purposes of this ordinance, the floodplain board may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
- E. Any applicant to whom a variance is granted shall be given written notice over the signature of a community official that:
1. the issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage;
 2. such construction below the base flood level increases risks to life and property; and
 3. the land upon which the variance is granted shall be ineligible for exchange of state land pursuant to the flood relocation and land exchange program provided by A.R.S. Title 26, Chapter 2, Article 2. A copy of the notice shall be recorded in the office of the **{county}** County Recorder and shall be recorded in a manner so that it appears in the chain of title of the affected parcel of land.
- F. The floodplain administrator shall maintain a record of all variance actions, including justification for their issuance and report such variances issued in its biennial report submitted to FEMA.

6.3 CONDITIONS FOR VARIANCES

- A. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood elevation, provided the procedures of Sections 4.0 and 5.0 {or the numbering system used by the community} of this ordinance have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.
- B. Variances may be issued for the repair, rehabilitation or restoration of structures listed in the National Register of Historic Places or the State Inventory of Historic Places, upon a determination that the proposed repair or rehabilitation will not preclude the structures continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- C. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- D. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- E. Variances shall only be issued upon:
 - 1. a showing of good and sufficient cause;
 - 2. a determination that failure to grant the variance would result in exceptional hardship to the applicant;
 - 3. a showing that the use cannot perform its intended purpose unless it is located or carried out in close proximity to water. This includes only facilities defined in Section 2.0 {or the numbering system used by the community} of this ordinance in the definition of “Functionally Dependent Use”; and,
 - 4. a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.